



April 10, 2002

Ms. Gwendolyn Massenburg Remedial Project Manager U.S. Environmental Protection Agency Region 5 77 West Jackson Boulevard Chicago, IL 60604

Subject:

Remedial Investigation/Feasibility Study Work Plan Review

Chemical Recovery Systems, Inc Elyria, Lorain County, Ohio TDD Number: S05-0108-034

Dear Ms. Massenburg:

T N & Associates, Inc. (TN&A), a sub contractor to Tetra Tech EM, inc. (Tetra Tech), was tasked under Superfund Technical Assessment and Response Team (START) technical direction document (TDD) number S05-0108-034, to provide oversight of Remedial Investigation/Feasibility Study (RI/FS) activities at the Chemical Recovery Systems, Inc. (CRS) site. TN&A has reviewed the draft RI/FS Work Plan prepared for CRS Site Group by Parsons. Our comments are provided in Attachment A.

Should you have any questions or comments, please contact me at 312/220-7000.

Sincerely,

Raghu Nagam Project Manager

CC: Thomas Kouris, START Program Manager

Attachment A - Review and Comments On Remedial Investigation/Feasibility Study Work Plan



Review and Comments

On

Remedial Investigation/Feasibility Study Work Plan

Draft, February 2002

Chemical Recovery Systems Inc.

Elyria, OH

Review and Comments Remedial Investigation/Feasibility Study Work Plan (Draft, February, 2002) Chemical Recovery Systems Inc.

General Comments:

- 1. The RI/FS Work Plan lacks an executive summary.
- 2. The Work Plan should discuss the basis and procedure for determining chemicals of concern (COCs).
- 3. The Work Plan should provide clarity on the proposed sampling approach and sampling rationale. Without the knowledge of the sampling plan, it is not clear what the probability of finding a source area and a hot spot is, and what minimum area of such a source or hot spot would be based on the selected probability.
- 4. The potentially responsible party (PRP) Work Plan appears to follow the format of OSWER's Suggested RI/FS Work Plan Format. A Work Plan Rationale Section should be included after Section 3.0. Work Plan Rationale Section should include Data Needs and Work Plan Approach to meet these needs. The Work Plan Rationale sub section should identify data requirements for risk assessment, extent of contamination determination, and alternative evaluations. The Work Plan Approach Sub section should illustrate how the proposed activities will satisfy specific data requirements.
- 5. In depth discussion of sampling and analysis plan, risk assessment, and ARARs may not be warranted in the RI/FS Work Plan and could be moved to other plans and reports appropriately.
- 6. The Work Plan should discuss fulfilling the Treatability Study and Feasibility Study requirements of the Administrative Order on Consent and the Statement of Work.
- 7. Costs and key assumptions Sections would enhance this RI/FS Work Plan format.

Specific Comments:

1.0 INTRODUCTION

- 1. Page 1 of 45, Section 1.1, INTRODUCTION; This section should discuss key reasons for conducting the RI/FS.
- 2. Page 1 of 45, Section 1.2, GOALS OF THE RI/FS PROCESS; Suggestion List the goals by bulleted numbers. Additional goals for the CRS RI/FS should include:
 - a. Identify all sources, hot spots, spills, etc., contributing to contamination at the site and define the nature and extent of contamination.
 - b. Identify and define sources, if any, due to past and current discharges or spills to Black River, and define the nature and extent of contamination on the banks of the site.
 - c. Collect data for treatability studies and feasibility studies, if needed.
- 3. Page 1 of 45, Section 1.3, SITE LOCATION: The correct CRS address is 142 Locust Street.

2.0 SITE HISTORY

- 4. Page 9 of 45, Section 2.4.4, Health Consultation-Agency for Toxic Substances and Disease Registry (1999): The last two sentences in this paragraph are not part of the Health Consultation Report and should be moved to sections discussing rationale for sampling or identification of migration pathways.
- 5. Page 9 of 45, Section 2.4.5, Assessment Results-Harshaw / Engelhard Site; Should limit discussion to activities conducted on CRS site and give findings and conclusions of their investigation with respect to CRS contamination.
- 6. Page12 of 45, Section 2.4.6, Remedial Activities Harshaw / Engelhard Site: This may be irrelevant for CRS RI/FS.
- 7. Page 13 of 45, Section 2.5, CRS SITE SUMMARY: Last sentence of the page is not ATSDR's conclusion and would be appropriate in pathways/sampling rationale discussion.

3.0 INITIAL EVALUATION

- 8. Page 17 of 45, Section 3.1.5, Groundwater Use: This section should only discuss groundwater uses and move conclusions of other reports and migration pathway evaluation under conceptual site model discussion. All migration pathways and exposure pathways and the preliminary assessment of public health and environmental impacts should be included under the conceptual site model discussion.
- 9. Page 19 of 45, Section 3.1.8, Identification of Chemicals of Concern (COCs): This sub section needs to explain the evaluation criteria for determining COCs and what regulatory levels, if any, were used for screening COCs.
- 10. Page 19 of 45, Section 3.1.8, Identification of Chemicals of Concern (COCs): "Levels of chemicals currently detected in Black River sediments and surface water are minimal and below levels of public health concern (ATSDR 1999)". COC identification should not be

based on health consultation. COC identification is normally based on past operations and analytical results. If contamination was observed in past sediment and surface water sampling events, then those contaminants should be part of the COCs. Further sampling and risk evaluation, as part of the RI/FS, is necessary. An health consultation is just a consultation report and not a risk assessment. The data collection requirements, data screening, and risk evaluation for a risk assessment are intense and quite different from an health consultation. An health consultation alone will not satisfy all the requirements of RAGS in evaluating risks.

- 11. Page 19 of 45, Section 3.1.8, Identification of Chemicals of Concern (COCs): "Specific chemicals of concern, for each media, are outlined in Tables included in Appendix C".

 TN&A could not locate these tables. Please provide table numbers where COCs are listed.
- 12. Page 20 of 45, Section 3.3, CONCEPTUAL SITE MODEL: Historical sources listed here should coincide with the Potential Areas of Activity/Concern (AOCs) listed in Section 2.3.4.
- 13. Page 20 of 45, Section 3.3, CONCEPTUAL SITE MODEL: The following additional pathways should also be considered.
 - a. Groundwater dermal exposure (industrial use) both on-site and off-site
 - b. Stream sediment ingestion (aquatic animals)
- 13. Page 21 of 45, Section 3.4.1, Define Data Gaps: The Table 1 showing data gaps should include lateral and vertical sampling as a data gap, since none of the sources identified in earlier sections have been defined with respect to their lateral and vertical extent.
- 14. Page 21 of 45, Section 3.4.2, Define Data Quality Objectives (DQOs): DQOs discussion should be included in the Sampling and Analysis Plan (SAP) rather than in the Work Plan. A Work Plan Rationale Section with a Data Needs Sub section and Work Plan Approach Sub section should be included in this Work Plan. The Work Plan requires discussion of data needs and how they will be addressed through sampling. For example, the sump area characterization and the lateral and vertical extent of contamination is not known. The data needs include identifying all contaminants present and their extent of occurrence. This sub section should identify all data needs and should correspond to the data gaps identified in the previous sub section and Table 1 of the Work Plan. Data needs for risk assessment and remedial alternatives should also be identified in the Work Plan. The Work Plan Approach Sub section should include activities that will satisfy data needs of the site.
- 15. Page 21 of 45, Section 3.5, APPLICABLE OR RELEVANT AND APPROPRIATE REQUIREMENTS: Suggest that this section limit discussion to regulatory programs, guidances, etc., and move general information such as definitions, types of ARARs, etc., to RI/FS report.
- 16. Page 21 of 45, Section 3.5, APPLICABLE OR RELEVANT AND APPROPRIATE REQUIREMENTS: U.S. EPA Region 9 Risk Based Concentrations (RBCs) should be considered as an ARAR.
- 17. Page 23 of 45, Section 3.6, PRELIMINARY GENERAL RESPONSE ACTIONS AND REMEDIAL ACTION ALTERNATIVES: Removal with treatment (excavation, treatment, and disposal) should also be considered.

4.0 REMEDIAL INVESTIGATION TASKS

- 18. Page 24 of 45, Section 4.0, REMEDIAL INVESTIGATION TASKS: This section heading should be "REMEDIAL INVESTIGATIONS/FEASIBILITY TASKS" (RI/FS) since the Administrative Order on Consent (AOC) and the Statement of Work (SOW) requires performing RI/FS for CRS site.
- 19. Page 24 of 45, Section 4.1, PURPOSE AND DQO REVIEW: Please list RI/FS goals.
- 20. Page 25 of 45, Section 4.2.1.4, Overview of Field Activities: "The objective of field sampling effort is to obtain data, which is sufficient to determine the presence, extent and magnitude of chemicals of concern at the CRS site". The objective of the field sampling effort should include obtaining data to first, identify all contaminants present at the site and second, to identify COCs. The data obtained to determine the presence, extent and magnitude of COCs may not satisfy the data needs for evaluating potential risks and developing remedial options.
- 21. Page 25 of 45, Section 4.2.1.4, Overview of Field Activities: "These data will then be utilized to determine and evaluate the potential risks to human health and the environment (if applicable), and to develop and screen remedial options". The clause "(if applicable)" is redundant since a risk assessment is required to determine if there are potential risks to human health and the environment. The conceptual site model proposed earlier depicted migration pathways and exposure routes. Only a risk assessment would show what risks, if any, exist due to site contaminants.
- 22. Page 25 of 45, Section 4.2.1.4, Overview of Field Activities, Soil Sampling: Section 2.3.4 identified 5 AOCs and 10 sub areas of potential concern. The rationale for selecting 9 soil borings should be discussed. The Work Plan should explain how approximately one boring per AOC would assist in evaluating the lateral and vertical extent of contamination. Suggest that sampling rationale follow U.S. EPA's Removal Program Representative Sampling Guidance or other sampling guidances.
- 23. Page 25 of 45, Section 4.2.1.4, Overview of Field Activities, Soil Sampling: "A maximum of three soil samples from each boring ...". The Work Plan should indicate the type of samples to be collected (composite or grab). All soil borings require screening with monitoring instruments to assist in collecting the highest reading sample from the mid-interval depth being proposed in this Work Plan.
- 24. Page 25 of 45, Section 4.2.1.4, Overview of Field Activities, Soil Sampling: "In addition to being utilized to define the presence, extent and magnitude of impacts". One boring will not determine the extent and magnitude of impacts by contaminants. Additional sampling should be proposed to clearly assist in defining the extent and magnitude of impacts, identifying source areas, if any, and estimating the volume of contamination for screening and developing remedial alternatives.
 - a. The kind of sampling proposed in this Work Plan may not assist in determining potential risks to human health and the environment since representative sampling (not just from AOCs) will be required and several background samples need to be collected. Please refer to Ohio EPA requirements on collection of background samples and determination of background concentrations.
 - b. The sampling proposed in this Work Plan may not assist in the evaluation and selection of potential remedial alternatives since parameters such as pH, soil density,

- porosity, heat value, etc., would be needed for some of the general response actions and remedial action alternatives proposed in Section 3.6. In addition, excavation and disposal alternatives have to abide by several Federal and State regulations, including the requirement to sample and determine that the waste is non-hazardous, if no treatment is proposed.
- 25. Page 26 of 45, Section 4.2.1.4, Overview of Field Activities, Monitoring Well Installation and Groundwater Sampling: Table 3 and Figure 7 list seven monitoring wells and the text is citing six additional monitoring wells to be installed.
 - a. A replacement monitoring well adjacent to the dismantled MW-1 location is necessary since MW-1 was known to be impacted by contamination. The results of the new monitoring well sampling could provide information on continued releases, if any, and may lead to a source contributing to this release.
 - b. Monitoring wells at the eastern boundary of the site would be required to evaluate up gradient concentrations and assess any contamination coming on to the site from off-site sources.
 - c. There are no monitoring wells proposed in the middle section of the site. At least two monitoring wells along the north-south middle line of the site would provide groundwater quality in this area of the site. In addition to these monitoring wells, several geoprobe samples would be required on the site to evaluate groundwater quality as well as to delineate source areas and identify any unknown sources.
- 26. Page 27 of 45, Section 4.2.1.4, Overview of Field Activities, Sediment Sampling: There are five outfalls/pipes shown on Figure 7. At least one sediment sample from each outfall/pipe should be collected, in addition to proposed locations, to determine contamination.
- 27. Page 28 of 45, Section 4.2.4, Data Assessment: "If concentrations of chemicals of concern, do not exceed these levels, no risk assessment will be completed". The RI/FS requirement for this site is based on past sampling that showed contamination in soil, sediment, and groundwater. A risk assessment is necessary based on past data alone. Replicate sampling should be proposed to mimic past locations and assess their current risks. There are some compounds/analytes without U.S. EPA screening levels and would require site-specific risk assessment.
- 28. Page 28 of 45, Section 4.3.1, Human Health Evaluation: The title should be in line with Section 4.3 title "RISK ASSESSMENT" to read "Human Health Risk Assessment"
- 29. Page 29 of 45, Section 4.3.1.1, Data Evaluation: Background concentrations may have to be determined based on Ohio regulations. Suggest verifying the regulations and coordinating with U.S. EPA.
- 30. Page 34 of 45, Section 4.3.2.3, Toxicity Assessment, Aquatic Life: In addition to AWQC, Ohio regulations on water quality criteria for Black River, if any, may be applicable.
- Page 35 of 45, Section 4.3.2.5 Risk Characterization: Please provide U.S. EPA the "Preliminary Risk Evaluation" Report.
- 32. Page 36 of 45, Section 4.4.1 Development and Screening of Alternative Remedial Actions: "Approaches will be screened coincident with site characterization to ensure that sufficient data are collected ...". The Work Plan should include necessary sampling and analysis that are necessary in evaluating remedial actions.
- 33. Page 37 of 45, Section 4.4.1 Development and Screening of Alternative Remedial

Actions: "If the site conditions suggest COCs could migrate to the Black River at an unacceptable concentration, consideration may be made for a mixing zone at the point of discharge to the river when determining the point of risk evaluation". The area, if any, between the discharge and the river should also be taken into consideration for evaluation of risks. Discharge of contaminated material to the Black River will require obtaining permits and meeting state discharge criteria. Sampling analysis required for discharge permits should be proposed in this Work Plan. If site conditions suggest COC migration to the Black River, these conditions would have to be mitigated to the extent possible, before considering a discharge to the river.

COMMENTS ON TABLES

34. Table 1 Data Gap Identification:

- a. Complete characterization should be a data gap for all AOCs. A composite sample from each AOC should be collected in addition to proposed sampling and analyzed for metals, VOCs, SVOCs, and PCBs. The historical data in some areas of the site, is 20 years old. New releases, if any, cannot be identified if limited parameter analysis is conducted.
- b. Both the lateral and vertical extent of contamination is a data gap for all AOCs. The Work Plan sampling should address this data gap.

35. Table 2 DQO Steps - Soil Study:

- a. STEP 1: Problem Statement should include identifying all hazardous substances, pollutants, and contaminants. STEP 1 should also identify the lack of information on contaminant risks and exposure pathways for risk assessment.
- b. STEP 3: Decision input related to the decision in STEP 2 should be to identify contaminants which may pose a threat to human health and the environment. The decision inputs related to CRS site should include identification of all ARARs so that STEP 2 results can be evaluated.
- c. STEP 4: The study boundaries should cover lateral extent of contamination for each AOC
- d. STEP 5: Decision rules should answer STEP 2 and 3. For example, STEP 5 should answer the question "what is next if contamination above regulatory/preliminary risk limits is found?"
- e. STEP 7: Sampling design for the site should be proposed. To optimize the number of VOC samples, screening level data could be proposed to select VOC samples.

36. Table 3 Sampling Program Rationale:

a. In general one boring per AOC would not characterize the entire AOC and cannot define the lateral and vertical extent of contamination in the AOC. A systematic sampling approach would enable discovering all contaminants and sources present on site. At least one sample from each AOC should be analyzed for all analytes ever detected on site.

Former Drum Storage Area

b. Drum Storage Area 5 is not proposed for sampling and no rationale is given for not

sampling. The text in Section 2.3.4 refers to five drum storage areas while the Figure 7 shows four drum storage areas.

Slope and Still Buildings

c. Rodney Hunt Still Building: The rationale for only VOC analysis is not justified when previous sampling showed VOCs, SVOCs, and pesticides/PCBs.

Monitoring Well Installation

d. Drum Storage Area 2 proposed monitoring well locations should be located closer to the Drum Storage Area 2 to determine impacts at this location to groundwater.

Sediment and Surface Water

- e. To determine the impact of former site operations on surface water quality, all five discharge pipe areas should be sampled in addition to proposed locations.
- f. Sediment samples should follow the same rationale as surface water given in the previous comment.

Shallow and Deep Groundwater

g. The rationale for proposed analysis of PCBs after filtration should be given.

Suggest unfiltered sample analysis for all compounds and filtered sample analysis for metals.

TDD AMENDMENT REQUEST

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